Response to Applicants Arguments/ Amendments

1. Applicants arguments/amendments filed on 8/14/2008 have been entered and made of record.

2. Regarding the objection to the specification, the objection to the specification has been overcome by the present amendment.

3. Applicants arguments with respect to the rejections under 35 U.S.C. 112 First Paragraph have been fully considered but are not persuasive.

4. Applicant argues that "defining a plurality of tetrahedrons each being formed by connecting said first line a second line and an additional line connecting said first and second endpoints and additional lines connecting an additional point with said starting point with said first end point and with the second end point" is disclosed in the sixth embodiment paragraph 185-188. Applicant appears to state that the "third line" as disclosed in the 6th embodiment is "additional line connecting an additional point with said starting point" in claim 32 and 37-61, however claim 32 contains a "third line" and "additional line connecting an additional point with said starting point" the claim does not claim that "third line" and the additional line are the same but requires a "third line" and "an additional line connecting an additional point with said starting point" since there are only 3 types of lines connected to the starting point (first second and third) the 6th embodiment cannot disclose first second third and

additional lines connected to the starting point. This is not disclosed in the specification.

5. Furthermore in applicant argues the above tetrahedron is defined by the lines W-K, G'-K and Y'-K. As disclosed in the specification *W-K is the first line G'-K is disclosed as a third line and Y'K is disclosed as a third line (see page 52 of the specification).* This tetrahedron does not support the claim language as it is missing the elements "a second line" and "an additional line connecting an additional point with said starting point".

6. Furthermore applicant appears to be trying to combine embodiments in a way which is not disclosed in the specification. Applicant seems to try to claim performing the 6th embodiment when the input color is in not substantially within the range of a memory color and the 5th embodiment when the input color is within the range of a memory color. There is nothing in the specification to suggest applicant had possession of performing the 6th embodiment when the input color is in not substantially within the range of a memory color and the 5th embodiment when the input color is within the range of the embodiment at the time of filing. In fact the fifth and sixth embodiments are disclosed as alternative way of defining the "third lines" as described in paragraph 185 of the specification.

7. Regarding applicants arguments with respect to the pentahedrons in claims 55 and 59. Applicant is arguing the 6th embodiment discloses these features. While applicant is correct that the 6th embodiment discloses these features. In claims 55 and 59 there are also features disclosed only in the 5th embodiment to which the claim was originally directed and to which the examiners assumes the claim is still directed. Applicant appears to be attempting to claim a combination of the 5th and 6th embodiment which was not disclosed in the specification. Therefore the claim is conflicting in the sense that it is not clear which embodiment it is addressing.

8. Regarding applicants arguments with respect to "interpolation" as claimed in claims 32 and 37-61. The amendments have modified the claim such that interpolation is not dependent on weather or not it is in a memory color, but rather the tetrahedron is modified based on the memory color. The points made by the examiner regarding interpolation are no longer relevant due to this amendment.

9. Regarding applicants arguments with respect to 35 U.S.C. 103 with respect to the combination of Saito and Assada applicants arguments are rendered moot based on new grounds of rejection below, which were necessary because of applicants amendment.

10. Regarding applicants arguments with respect to 35 U.S.C. 103 applicants arguments have been fully considered but are not persuasive.

11. Regarding applicants arguments with respect to the combination of Saito and Assada have been fully considered but are not persuasive. Applicant argues that different tetrahedrons are defined based on whether you are within the range of a memory color or not. However in his own arguments applicant suggests that the third line could be the additional line

12. Regarding applicants argument with respect to applicants claim that Murakami teaches away from Saito. The first does examiner does not concede that Murakami teaches away from using the tetrahedrons of Saito. Murakami merely states one advantage (simplicity) and one disadvantage (inaccuracy) of tetrahedrons and advantage (better accuracy) and one disadvantage (more complexity) of his method. Murakami merely describes a tradeoff between complexity and accuracy between his “cube" method and the tetrahedron method for one of ordinary skill in the art to make based upon his requirements.

13. However even if Murakami were to teach away from the use of tetrahedrons Murakami does not teach away from using the element the examiner is relying upon in tetrahedrons of Saito. The combination proposed by the examiner is the combination of the tetrahedrons of Saito with the suggestion of Murakami that further division be used in areas where there is a memory color. To teach away from the combination of the examiner there would have to be a suggestion that the further

division described in Murakami could not should not be used in the tetrahedrons of Saito. In other words to teach away from the combination proposed be the examiner, Murakami would have to teach that the elements which the examiner wished to combine could not or should not be combine. Therefore even if Murakami taught away from using the tetrahedrons of Saito (which it does not), Murakami would only teach away from combining the tetrahedrons of Saito with the shapes of Murakami. The examiner has made no such combination.

Rejections Under 35 U.S.C. 112 First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claim 32, and 37-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims constitute new matter.

15. First there is no mention of “defining a plurality of tetrahedrons each being formed by connecting said first line a second line and an additional line connecting said first and second endpoints and additional lines connecting an additional point

with said starting point with said first end point and with the second end point.“ No such tetrahedron has been mentioned in the specification. The tetrahedrons in applicants specification are defined between first second and third lines. It is not clear what applicants "additional lines" would be, since only first second and third lines are described in the specification.

16. Furthermore applicant appears to be trying to combine embodiments in a way which is not disclosed in the specification. Applicant seems to try to claim performing the 6th embodiment when the input color is in not substantially within the range of a memory color and the 5th embodiment when the input color is within the range of a memory color. There is nothing in the specification to suggest applicant had possession of performing the 6th embodiment when the input color is in not substantially within the range of a memory color and the 5th embodiment when the input color is within the range of the embodiment at the time of filing. In fact the fifth and sixth embodiments are disclosed as alternative way of defining the “third lines” as described in paragraph 185 of the specification.

17. Furthermore Applicants specification does not always appear to use the first line when defining tetrahedrons “if said input color is substantially within said color range of memory color” making applicants’ condition false and not supported by the specification. The tetrahedron RYS1K as defined in the paragraph 182 does not include the first line and yet used for a region close to the memory color.

18. Furthermore in dependent claims 55 and 59 there is a clear conflict with the way the tetrahedrons are being defined in the claims from which they depend for example this embodiment is depicted in figure 23 note some of the shapes interpolated from in this embodiment are not even tetrahedrons i.e. the "pentahedron" defined by G'Y'YGK, see paragraph 187. Furthermore this embodiment appears to have nothing to do with memory colors further making it incompatible with the tetrahedrons of the claims from which they depend.

Rejections Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 32, 37-61 are rejected under 35 U.S.C. 103 as being anticipated by Saito US 2002/0021458 in view of Asada Us 5,018,008 in further view of Murakami et al US 5,930,388

20. Re claim 32 Saito discloses An image processing method for converting an input color signal, being input to an image output apparatus, into a color material signal, the image processing method comprising the steps of: defining a first line (BK-W see

figure 4a) including a starting point (BK) and a first end point (W) as end points of the first line; defining one or more second lines (BK-R figure 4A), each second line including said starting point (BK) and a corresponding second end point (R) as end points of the second line; determining one or more color material signals (color separation tables paragraph 57) on the first, second, and third lines; if said input color signal is not substantially within a color range of memory color (note in the Saito this is always preformed and will therefore will be preformed under then above condition) defining plurality tetrahedrons (See figures 4A-4F), each being formed by connecting said first line (BK-W figure 4a), a corresponding one of said plurality of second lines (BK-R figure 4a), an additional line connecting said first and second end points (W-R), and additional lines (BK-M, M-R, and M-W) connecting an additional point (Third point M) with said starting point (BK) , with said first end point (W) and with the second end point (R of the corresponding second line (see figure 4A), respectively, identifying one of said tetrahedrons having the input color signal situated therein and obtaining said color material signal by performing interpolation on the identified tetrahedron (perform interpolation paragraph 58), if said input color signal is not substantially within a color range of memory color; wherein the first line is an achromatic line in a reproducible color range of the image output apparatus (see figure 2B note Bk-W is defined between black and white and has no color), the one of the second lines is a line situated on an outermost boundary line of the reproducible color range (see figure 2B).

21. The combination of Saito and Murakami discloses if said input color signal is substantially within said color range of memory color (Marakami discloses further dividing said image in the area of a memory color see), defining a tetrahedron formed by said first line (BK-W), one of said second lines (BK-R) (Saito see figure 4), one of said third lines (a line which would be created by further division of Saito in the area of a of a memory color Marakami column 4 lines 60-67), and other lines connecting the third end point of the one of the third lines with the second end point of the one of the second lines, and connecting the first end point with the third end point of the one of the third lines and with the second end point of the one of the second lines (See figure 4a note that Saito connects each end point to black and each endpoint with each other) respectively, obtaining said color material signal-by interpolation according to the first, second, and third lines forming said tetrahedron (Saito perform interpolation paragraph 58); and the one of the third lines are is a line situated within the reproducible color range of the image output apparatus (Saito note all the lines are situated in the reproducible cube see figure 2B the additional division of Murakami would also be in the reproducible color range); and defining one or more third lines each third line including said starting point and a third end point as end points of the third line (note the further division of Murakami (see column 6 lines 60-67) implemented in the tetrahedrons of saito would produce additional lines from black to and endpoint to further divide the color space); The motivation to combine is “accurately color-correcting a specificed color”(column 4

lines 60-67). Therefore it would have been obvious to combine Murakami and Saito to add more lines to reach the aforementioned advantage.

22. Saito does not disclose wherein the color range of memory color includes human skin color, ocean blue color, sky blue color, and plant green color. This is a well known predictable list of memory colors that one of ordinary skill in the art would be aware of (See Assada column 1 lines 24-26). This list of memory colors would not really alter Saito and therefore results would be predictable. Therefore the combination of Saito and Assada would have been obvious to one of ordinary skill in the art.

23. Re claim 37 Saito further discloses wherein the one or more color material signals allocated on the first, second, and third lines are one or more signals of same color having different density (note this is clear from the color space depicted in Fig. 2B. the lines define a color with different brightness.)

24. Re claim 38 Saito further discloses wherein the one or more color material signals allocated on the first, second, and third lines are one or more signals of black(C M Y K ink paragraph 74)

25. Re claim 39 Saito further disclose wherein the one or more color material signals of black allocated on the one or more third lines are allocated to determine a maximum amount of black for a black signal situated between the first line and the

one or more third lines (paragraph 58) note the lines are interpolated to figure out color separation (ink allocation) .

26. Re claim 40 Saito further discloses wherein the one or more color material signals of black (black ink) allocated on the one or more second lines are allocated to determine a maximum amount of black (optimum UCR) for the one more color materials of black and obtain a maximum range for the reproducible color range (color reproduction region). (see paragraphs 57 -59)

27. Re claim 41 Saito further disclose wherein the one or more color-material signals of black are allocated to be black starting points (K ink start points paragraph 56) at which graininess is unnoticeable (paragraph 59).

28. Re claim 42 Saito further discloses wherein the one or more color material signals are allocated according to a designation of a user (see claim 4)

29. Re claim 43 Murakami further discloses wherein the one or more third lines (further division column 4 line 64) are controlled according to a characteristic of an input image (required output accuracy column 12 line 29.) The motivation to combine is “accurately color-correcting a specificed color”(column 4 lines 60-67). Therefore it would have been obvious to combine Murakami and Saito to add more lines to reach the aforementioned advantage.

30. Re claim 44 Saito further discloses further comprising a step of creating a table indicative (color separation table paragraph 58) of the obtained color material signal corresponding to the input color signal.

31. Re claim 45 Saito further discloses An image processing apparatus comprising: a CPU, wherein the CPU converts an input color signal into a color material signal by referring to the table as set forth in claim 44 (see paragraph 110).

32. Re claim 58 Saito discloses wherein the first line is a line extending between white and black, wherein the one or more second lines are one or more lines extending between black and a primary color and/or a secondary color, Murakami discloses wherein the one or more third lines (further dividing column 4 line 64) are one or more lines passing through a color range for memory color (flesh tones column 4 line 62).

33. Re claim 59 Saito further discloses wherein the first line is a line extending between white and black (Bk- W see figure 21), wherein the one or more second lines are one or more lines extending between black and a primary color and/or a secondary colors (Bk-R figure 21) wherein the one or more third lines are one or more lines connecting black with one or more points situated between white and a primary color or a secondary color (BK-GC figure 21).

34. Re claim 60 Saito further discloses wherein the amount of black for each point on the first second and third lines is determined according to distance from black (paragraph 59)

35. Re claim 61 wherein a black starting point for a third line starts (BK C figure 2c) later compared to black starting points for the other lines (Figure 2C note the black starting point for C (C0) starts the latest compared to the other lines).

36. Re claim 46 Saito discloses An image processing method for converting an input color signal, being input to an image output apparatus, into a color material signal, the image processing method comprising the steps of: defining a first line (BK-W see figure 4a) including a starting point (BK) and a first end point (W) as end points of the first line; defining one or more second lines (BK-R figure 4A), each second line including said starting point (BK) and a corresponding second end point (R) as end points of the second line; determining one or more color material signals (color separation tables paragraph 57) on the first, second, and third lines; if said input color signal is not substantially within a color range of memory color (note in the Saito this is always preformed and will therefore will be preformed under then above condition) defining plurality tetrahedrons (See figures 4A-4F), each being formed by connecting said first line (BK-W figure 4a), a corresponding one of said plurality of second lines (BK-R figure 4a), an additional line connecting said first and second

end points (W-R), and additional lines (BK-M, M-R, and M-W) connecting an additional point (Third point M) with said starting point (BK) , with said first end point (W) and with the second end point (R of the corresponding second line (see figure 4A), respectively, identifying one of said tetrahedrons having the input color signal situated therein and obtaining said color material signal by performing interpolation on the identified tetrahedron (perform interpolation paragraph 58), if said input color signal is not substantially within a color range of memory color.

37. The combination of Saito and Murakami discloses if said input color signal is substantially within said color range of memory color (Marakami discloses further dividing said image in the area of a memory color see), defining a tetrahedron formed by said first line (BK-W), one of said second lines (BK-R) (Saito see figure 4), one of said third lines (a line which would be created by further division of Saito in the area of a of a memory color Marakami column 4 lines 60-67), and other lines connecting the third end point of the one of the third lines with the second end point of the one of the second lines, and connecting the first end point with the third end point of the one of the third lines and with the second end point of the one of the second lines (See figure 4a note that Saito connects each end point to black and each endpoint with each other) respectively, obtaining said color material signal-by interpolation according to the first, second, and third lines forming said tetrahedron (Saito perform interpolation paragraph 58; and defining one or more third lines each third line including said starting point and a third end point as end points of the third line (note the further division of Murakami (see column 6 lines 60-67) implemented in

the tetrahedrons of Saito would produce additional lines from black to and endpoint to further divide the color space); The motivation to combine is "accurately color-correcting a specificed color"(column 4 lines 60-67). Therefore it would have been obvious to combine Murakami and Saito to add more lines to reach the aforementioned advantage.

38. Saito does not disclose wherein the color range of memory color includes human skin color, ocean blue color, sky blue color, and plant green color. This is a well known predictable list of memory colors that one of ordinary skill in the art would be aware of (See Assada column 1 lines 24-26). This list of memory colors would not really alter Saito and therefore results would be predictable. Therefore the combination of Saito and Assada would have been obvious to one of ordinary skill in the art.

39. Re claims 47-57 these claims although depending from a broader independent claim contain the same language as claims 41, 38, 39, 40, 42, 43, 44, 45, 59, 60, and 61 respectively. These claims are likewise disclosed by Saito, Assada and Murakami.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN MOTSINGER whose telephone number is (571)270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
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Motsinger
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